



# Whistler Design Preview

## April 20 & 21



# **Windows Web Services**

**IIS in Whistler- 64**

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# **Whistler - 64**

## **JDP Design Preview**

### **IIS for Whistler 64**

- **Objectives**
- **Design Mantra**
- **32 = 64**
- **Abilities**
- **Customer**
- **Fixes and Features**
- **Futures**

# IIS for Whistler-64

## Common Concerns - IT and Internet

Security

Administration

Programmability

Internet Standards

Reliability and Availability

Scalability and Performance

# **IIS for Whistler -64**

## **Design Goals**

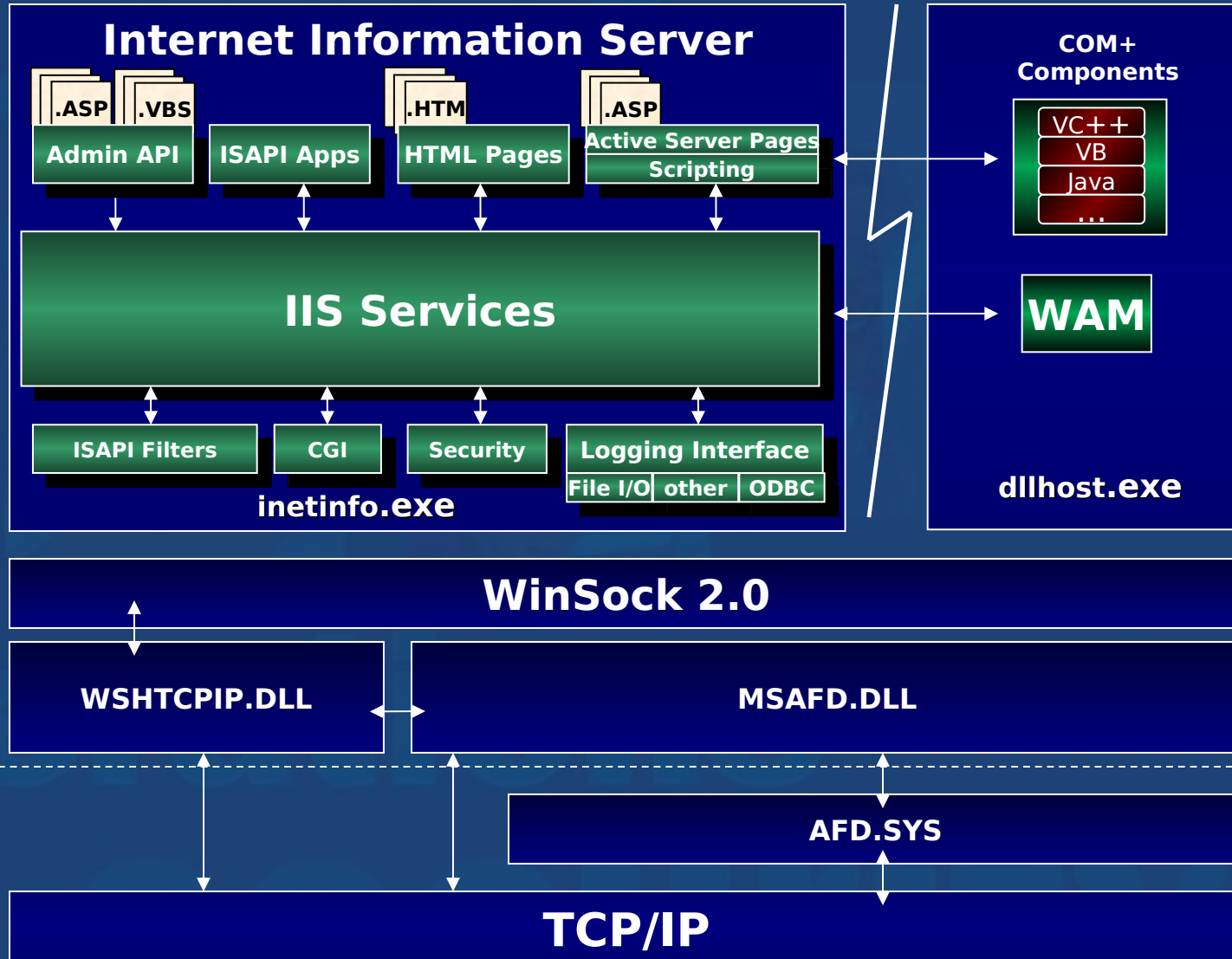
- **Continue Improvements from IIS 5**
  - **Scalability**
  - **Reliability**
  - **Performance**

# **IIS for Whistler 64**

## **IIS 5.1 Feature Goals**

- **Improve on the existing architecture**
- **Full code port to 64 bit Windows**
  - **IIS - 64 will be feature complete**
  - **On par with 32 bit IIS**
  - **All IIS5 Features + a few IIS 5.1 features**

# IIS 5.x Architecture



# **IIS for Whistler 64**

## **IIS Focus - Web App/Site Hosting**

- **Address ISP/ ASP needs**
- **Deployment Blockers**
  - **Quickly fix and respond to customer issues**
  - **Consider Design Changes as warranted**



# **Reliability**

**99.99% on Whistler 64**

- **Ensure Rock Solid 32 bit and 64 bit**
- **Pre-release production testing**
  - **Microsoft.com**
  - **Intel.com**
  - **Select ISP/ASP**
  - **Select Sites (including JDP)**

# **IIS for Whistler 64**

## **IIS Focus - Scalability**

- **Double number of websites per box**
  - 10,000 sites per server
- **Increase number of out-of-process apps**
  - IIS 5.1 has COM+ process partitioning
  - 200 OOP isolated applications
- **Continue tighter integration with the OS**
  - 5 minute maximum server startup time

# Performance

## The fastest 64 bit webserver

- **Ensure IIS - 64 outperforms competitors**
  - **Current work with Intel in house**
  - **Live load production testing and tuning**

# **IIS for Whistler 64**

## **Features**

### **Internet Standards**

- **WebDAV / Web Folders**
- **FTP Session Restart**
- **HTTP Compression**
- **Digest Authentication**

### **Management**

- **IIS Reliable Restart**
- **Delegated Administration**
- **Application Protection & Throttling**
- **Security Enhancements**

### **Development**

- **ASP Enhancements**
- **COM+ Integration**
- **ADSI 2.5**

# IIS for Whistler 64

## Internet Standards

- Web Distributed Authoring and Versioning (WebDAV)
- FTP Restart
- HTTP Compression
- Digest Authentication

# **IIS for Whistler 64**

## **Management**

- **IIS Restart**
- **Backup and Restore**
- **Process Accounting**
- **Process Throttling**
- **Configuration Options**
- **Remote Administration**
- **Scripted Administration**

# **IIS for Whistler 64**

## **Security**

- **Digest Authentication**
- **Secure Communications:**
  - **Secure Sockets Layer (SSL) 3.0**
  - **Transport Layer Security (TLS)**
- **Server-Gated Cryptography (SGC)**
- **Security wizards**
- **IP and Internet Domain Restrictions**
- **Kerberos v5**
- **Fortezza**

# **IIS for Whistler 64**

## **Programmability**

### **Active Server Pages**

- New flow control methods
- Improved error handling
- Scriptless ASP
- Extensible Markup Language (XML)
- ASP self-tuning
- Server-side include with SRC attribute
- Encoded scripts in ASP pages

### **COM+ Integration**

- Application Protection
- Partitioning

### **ADSI 2.5**

- Adds custom objects, properties, methods
- Flexibility for site configuration



# **IIS for Whistler 64**

## **IIS 5.1 - Customer Fixes**

- **Known problem areas (bugs)**  
**Automated test bugs**  
**Backup/Restore Issues**  
**ASP (UTF-8) fixes**
- **Consider event model extension**  
**(WMI Provider)**

# **IIS for Whistler 64**

## **IIS 5.1 Features**

- **Improve metabase backup/restore**
- **UNC Directory Monitoring**
- **SSL programmability**
- **ADSI enhancements**
- **ASP Template Cache Tuning**
- **DAV enhancements**

# IIS 5.1 Features

- **Win64 Support**
- **Reliability and Performance improvements**
- **Manageability**

# **Beyond IIS 5.1**

# **Futures - IIS 6.0**

- **Text based configuration**
- **Kernel Mode listener that routes to user mode processes**
- **Process Isolation**
- **Process Monitoring**
- **Process Cycling (re-cycling)**

# Changing Customer Needs

- **Enterprise customers**
  - Rich application functionality (KM, Mail, Development Tools)
  - Integration with business logic components and enterprise data
  - Plus, many of the same needs below
- **ISP/ASPs**
  - Central management / 100s of servers
  - Scale to thousands of sites
  - SLAs require highly reliable application environment
  - Need remote management tools

# HTTP Listener

## Kernel Mode HTTP Listener

- Simplifies driver code path for HTTP requests
- HTTP request forwarded to transiently registered applications or web server via URI namespace mapping
- Queues requests to applications - even when application is down

## Response Cache

- Caches static data
- No kernel to user-mode transition when serving cached pages

# Reliability

## Application Isolation

- Applications can be isolated in their own process (dllhost.exe)
- Failing application in one process doesn't affect applications in other processes

## Process Rotation



# **Web Admin Service**

## **Configuration Manager**

- **Manages Application Configuration**
- **Responds to changes in configuration files**
- **Sets up virtual directories and namespace groups**

## **Process Manager**

- **Manages application processes**
- **Controls on-demand process activation and process cycling**
- **Periodically checks application health**
- **Automatically restarts crashed applications**

# Configuration

- **XML-based Configuration - Replaces IIS Metabase**

**Human readable, editable XML configuration files**

**Configuration can be deployed via tools such as XCOPY for large site, remote management**

**Supports Backup / Restore of config store**

**Familiar model for Unix/Apache administrators**

- **Configuration exposed via Metabase APIs and Architecture**

**Maximum backward compatibility**

**Leverage existing code**

# Summary

- **Whistler is the full IIS5/IIS 5.1 feature release on 64 bit**
- **Improved reliability**
  - Application isolation**
  - Process recycling and automatic restart**
- **More flexible configuration management via XML files**
- **Performance**
  - Kernel-mode http cache**
- **Compatibility**

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